RESPONSE TO COMMENTS FROM NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION ON THE DRAFT SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT – SITE 16 JANUARY 2002

General: NOAA has only a few comments to add given that the Navy apparently will move forward with a baseline ERA as Table 5 shows numerous COPC's. Comments are numbered below.

Response— The Navy does not believe that a baseline ERA for the sediment adjacent to Site 16 is necessary. See additional discussion in response to Comment 3 below.

Comment 1: NOAA would like to examine the actual sediment and seep chemical concentrations. Table 4 and 5 only provide the location for those samples showing the maximum concentration; values for the maximum and minimum are provided but the location of the minimum is not. The concentration and location of the middle sample is a mystery.

Response— The referenced sediment sample results are presented in detail in the Draft Phase I Remedial Investigation Report of IR Program Site 16, NCBC (submitted 22 October 2001) in Section 4.6.2 of the text, Tables 4-8 through 4-13, and Figures 4-15 through 4-19.

Comment 2: The high concentrations of organic (and some inorganic) contaminants found in the sediment are not surprising given the previous Spink Neck data from 1993. It was observed from the Allen Harbor Phase 2 Risk Assessment Pilot Study that significant mortality of *Ampelisca* was observed with sediment from the Spink Neck outfall. Is the outfall pipe labeled OPW 16-01 the same as the Spink Neck outfall?

Response— Based on a review of the Phase II Draft Final Report *Allen Harbor Risk Assessment Pilot Study* (Munns, et al, 1993), the Spink Neck outfall referred to therein appears to be the same outfall referred to as OPW/OPSED 16-01 in the draft SLERA for Site 16.

Comment 3: During a meeting between EPA, the Navy, NOAA, and RIDEM in December 1999 we discussed the data provided in number 2 above. NOAA recommended that the Navy look over this Risk Assessment Pilot Study and assess the data from the Spink Neck outfall. The Navy should compare the new sediment data with that from 1993 so that spatial and temporal gradients from

these potential sources can be taken into consideration. It is likely that Spink Neck is the main problem as it drains the large parking area behind Site 16. NOAA also recommended that the Navy attempt to delineate the PAH signature found in the sediment from either the parking lot (likely motor oils) to that attributable to Site 16 (creosote). NOAA believes a pyrogenic PAH related to creosote will stand out and show if Site 16 is a source to sediment contamination. This step could help determine the need for an aquatic component to the baseline ecological risk assessment.

Response— Concentrations of those chemicals measured/detected in common between the RAPS study and the current draft SLERA (and which were designated as COPC in the SLERA) for Site 16 are compared in the attached table. The Navy realizes that this comparison is based on data from limited sampling events; however, of 17 COPCs compared, the concentrations of 15 were lower in the samples collected in 2001 (SLERA) than in the samples collected in 1990 (RAPS Phase II; Munns, et al., 1993). Based on comparison of the means, most concentrations detected in the 2001 samples were substantially lower: by 55 to 98 percent for metals, 69 to 99 percent for PAHs, and 30 to 90 percent for pesticides/PCBs. Only the detected concentrations of arsenic and DDD were higher in the 2001 samples. There has been a substantial decrease in most concentrations, and particularly PAH compounds, from 1990 (3 seasonal samples at one location) to 2001 (one sample each at 3 locations, one identical to the 1990 location). This is compelling evidence that the source—whether it was the creosote or fire training areas of Site 16 or the adjacent parking lot east of Site 16 draining to the southeastern corner of Allen Harbor—may have been mitigated and natural degradation has been taking place.

Particularly in light of the apparent marked amelioration that has taken place in the quality of the sediment over time, the Navy does not believe that an attempt to identify chemical "signatures" of PAH compounds will be useful. This is not a trivial procedure and the probability of success is uncertain because original releases (at least of creosote) took place over 30 years ago. In the Navy's view, the source of sediment contamination appears to have been mitigated and additional effort to identify what the source had been would be superfluous, if at all successful.

The Navy recognizes that, currently, the 2001 sample data indicate sediment poses some ecological risk based on the conservative screening values and assumptions used in the screening level assessment. But given that most HQs are less than 10, the small size of the area involved, and the possibility of natural degradation that may be occurring, the Navy is not convinced that a baseline ERA for the sediment is appropriate.

TABLE A
COMPARISON OF NCBC SITE 16 SEDIMENT DATA BETWEEN THE 2001 SAMPLES IN THE SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT AND THE 1990 SAMPLES IN THE PHASE II ALLEN HARBOR RISK ASSESSMENT PILOT STUDY

	2001 SEDIMENT SAMPLE DATA				1990 SEDIMENT DATA (LOCATION SN)				2001 AVG/ 1990 AVG	2001 OPSED/ 1990 AVG
	SED16-01	SED16-02	OPSED	AVERAGE	SPRING	SUMMER	FALL	AVERAGE		
Arsenic	5.25	36.6	0.97	14.3	2	2	2	2	7.32	0.50
Copper	127	13.4	35.2	58.5	1,610	2,950	2,230	2,263	0.03	0.02
Lead	106.8	11.4	154	90.7	1,690	3,510	2,330	2,510	0.04	0.06
Manganese	204.5	788	89	360.5	623	1,000	784	802	0.45	0.11
Nickel	53.8	19.3	11.5	28.2	576	958	746	760	0.04	0.02
Zinc	346	50.5	163	186.5	7,890	14,000	11,700	11,197	0.02	0.01
Benzo(g,h,i)perylene	310	23	380	238	6,930	5,130	5,940	6,000	0.04	0.06
Chrysene	160	34	450	215	22,700	18,100	19,700	20,167	0.01	0.02
Fluoranthene	1,800	64	1,700	1,188	27,400	23,800	20,200	23,800	0.05	0.07
Fluorene	580	39	240	286	710	1,110	960	927	0.31	0.26
Indeno(1,2,3-cd)pyrene	310	39	250	200	6,090	4,620	5,180	5,297	0.04	0.05
Phenanthrene	370	44	790	401	25,000	24,700	20,700	23,467	0.02	0.03
Pyrene	855	68	340	421	27,600	23,800	20,400	23,933	0.02	0.01
DDD	3	2	2	2	2	1	2	1	1.75	1.41
DDT	2	2	1	2	3	2	2	2	0.70	0.56
Gamma chlordane	1.05	1.65	1.7	1.5	17	13.3	13.5	14.6	0.10	0.12
PCB-1260 (~total)	36	16.5	10	20.8	71.9	75.3	153	100.1	0.21	0.10

Note: SN=Spinks Neck outfall sample location referenced in the Phase II RAPS and is the same vicinity as the 2001 sample location OPSED.
Inorganic units=mg/kg; organic units=ug/kg.
If chemical was not detected in a sample (as in several instances in the 2001 sample data), 1/2 the detection limit was used in calculating average.